2712

GRIFFIN INTERNATIONAL INC

Dec 29 10 42 AM '00

MENT

December 27, 2000

Mr. Richard Spies
Sites Management Section
VTDEC WMD
103 South Main St./ West Bldg.
Waterbury, VT 05671-0404

RE: Initial Site Investigation Report, Abott & Staples, Manchester, Vermont
VTDEC Site #99-2712 (former site 89-0301)

Dear Mr. Spies:

Enclosed please find a copy of the initial site ivestigation report for the above referenced site for your review. A copy is being sent to you at the request of Mr. Walt Freed of Apollo Fuels.

Please do not hesitate to call, if you have any questions or comments.

Sincerely,

Beth Stopford
Environmental Engineer

Enc.

cc: GI # 109941631

P.O. Box 943 • Williston, VT 05495 • Phone 802-865-4288 • Fax 802-657-4129
59 Clinton Street • Plattsburgh, NY 12901 • Phone 518-562-4666 • Fax 518-561-6832

INITIAL INVESTIGATION OF SUSPECTED SUBSURFACE PETROLEUM CONTAMINATION AT ABBOTT & STAPLES FACILITY

December 27, 2000

Site Location:

Abbott & Staples
Route 7A
Manchester, VT

VTDEC SITE #99-2712
GI Project #109941631

Prepared For:

Apollo Industries
105 North End Drive
N. Clarendon, VT 05759-9762

Prepared By:

P.O. Box 943 / 20 Commerce Street Williston, VT 05495 (802) 865-4288

TABLE OF CONTENTS

I. INTRODUCTION

This report summarizes the initial investigation of suspected subsurface petroleum contamination at Abbott & Staples, located on Route 7A in Manchester, VT (see the Site Location Map in Appendix A). This investigation was conducted by Griffin International, Inc. (Griffin) for Apollo Industries to address petroleum contamination detected during a piping replacement inspection associated with three gasoline and one diesel underground storage tanks (USTs) in October 1999. The Vermont Department of Environmental Conservation (VTDEC) requested that this work be completed in a letter to Mr. Walter Freed of Apollo Industries from Mr. Chuck Schwer dated January 21, 2000. The site (VTDEC Site #99-2712) is owned by Apollo Industries.

Scheduled efforts consisted of the following:

1. The collection and laboratory analysis of groundwater samples from six (6) existing groundwater monitoring wells (MW-1 trough MW-6).
2. The collection and laboratory analysis of a water sample from the on-site supply well, which provides water to the facility carwash.
3. Sensitive receptor survey.
4. Preparation of a summary report (this document).

This work was conducted generally in accordance with Griffin's *Revised Work Plan and Cost Estimate* dated September 18, 2000. The work plan was approved in a September 20, 2000 letter from Mr. Richard Spiese of the VTDEC to Ms. Beth Stopford of Griffin.

II. SITE BACKGROUND

A. Site History

Subsurface petroleum contamination was detected in soil at the subject site during the October 26, 1999 UST system piping upgrade. The piping system associated with four (4) 8,000-gallon capacity gasoline and diesel USTs was removed from the ground and upgraded; the USTs remain in service. Volatile organic compound (VOC) concentrations, measured with an HNu™ Model PI-101 photoionization detector (PID) equipped with a 10.2 eV bulb, ranged from 0 parts per million (ppm) to 300 ppm in the excavation [1]. Impacted soils were located in the vicinity of, and directly beneath, the former dispenser island.

Soils in the vicinity of the excavation consisted primarily of brown sand from grade to 10 feet below grade. A medium to coarse gravel was encountered at 10 feet below grade, grading downward to a fine to medium gravel at 12 feet below grade. The water table was encountered at 11 feet below grade in this excavation.

Soils excavated during the upgrade were placed back into the excavation. Further information regarding the UST closure can be found in Griffin's November 2, 1999 *Piping Replacement Inspection* report.

This investigation was conducted to define the extent and degree of residual petroleum contamination remaining in the subsurface at the site.

B. Site Description

The subject property is located on the southeast side of Route 7A in Manchester, VT (see Site Location Map in Appendix A). The site is operated as a gasoline station/convenience store and car wash. The Abbott and Staples property and on-site building are owned by Apollo Industries, Inc. The grounds of the property are largely covered by asphalt (see Site Map).

Three 8,000-gallon gasoline, one 8,000-gallon diesel, and one 1,000-gallon No. 2 fuel oil USTs are located on the subject property (see Site Map). The USTs are used to store gasoline and diesel fuel for retail sale, and fuel oil for on-premises heating. A dispenser island located on the northeast side of the store dispenses fuel for retail sale.

The subject property is located in a primarily commercial district of Manchester. Properties immediately surrounding the site are used for commercial space. The nearest surface water is a tributary to the Battenkill River, approximately 1,200 feet to the northeast. There is a drilled supply well located on the Site, this well is used to supply water for the car wash, and is not used as potable water. There are no other known public or private water supply wells within a half-mile radius of the site, based on visual observation.

C. Site Geologic Setting

According to the Surficial Geologic Map of Vermont [2], the site is underlain by glaciofluvial deposits. Soils encountered during excavation activities consisted of sand to coarse gravel, and is inferred to be fill material. Bedrock at the site is mapped as Winooski Dolomite [3].

III. INVESTIGATIVE PROCEDURES

A. Determination of Groundwater Flow Direction and Gradient

Water table elevation measurements were collected from five of the six monitoring wells (MW-1; and MW-3 through MW-6) on October 2, 2000 using a Keck ™ interface probe; there was concrete blockage of the sixth well (MW-2) preventing access. Depth to water measurements were subtracted from the top of casing elevations, which were determined relative to an arbitrary datum of 100 feet at the top of the casing for MW-1, in order to calculate the water table elevation at each of the wells. Groundwater level data are recorded in Appendix B.

As displayed in the groundwater contour map included in Appendix A, groundwater flow as measured on October 2, 2000 is directed toward the northeast at an approximate hydraulic gradient of 0.8%. Under this groundwater flow regime, MW-1 is located hydraulically upgradient of the dispenser island source area; monitoring wells MW-2, MW-3, and MW-6 are located hydraulically cross-gradient with respect to the dispenser island source area; and monitoring wells MW-4 and MW-5 are located hydraulically downgradient of the dispenser island source area.

B. Groundwater Sample Collection and Analysis

Groundwater samples were collected from five of the six monitoring wells (MW-1 ; MW-3 through MW-6) following well gauging on October 2, 2000. Samples were analyzed for the presence of VOCs per EPA Method 8021B and for Total Petroleum Hydrocarbons (TPH) per EPA Method 8015 DRO. The supply well was analyzed for the presence of VOCs per EPA Method 524.2 and EPA Method 8015 DRO. Results of the laboratory analyses are summarized in Appendix C. A trip blank sample was collected and submitted for analysis per EPA Method 8021B; while the duplicate sample, collected from the on-site supply well, was submitted for analysis per EPA Method 8015 DRO.

None of the compounds targeted by the EPA Method 8021B analysis were detected in excess of laboratory detection limits in samples collected from monitoring wells MW-1; and MW-3 through MW-6. TPHs were not detected in excess of laboratory detection limits in any of the five monitoring well sampled.

A water sample was collected from the onsite supply well, which services the car wash facility, and submitted for laboratory analysis per EPA Method 524.2 for the presence of VOCs, and per EPA Method 8015 DRO for TPHs. The sample was non-detect for all targeted compounds.

Samples were collected according to Griffin's groundwater sampling protocol, which complies with industry and state standards. Results from the analyses of the trip blank and duplicate samples indicate that adequate quality assurance and control (QA/QC) were maintained during sample collection and analysis.

C. Sensitive Receptor Risk Assessment

A receptor risk assessment was conducted to identify known and potential receptors of contamination at Abbott & Staples. A visual survey was conducted during the piping replacement inspection in October 1999 and again during a site visit on October 11, 2000. Based on these observations, a determination of the potential risk to identified receptors was made based on proximity to the expected source area (i.e., the island dispenser system), groundwater flow direction, and contaminant concentration levels in soil and groundwater.

Water Supplies

Abbott & Staples and the surrounding commercial businesses are served by the municipal water supply. Water for the municipal system is provided by one drilled well located on Union Street in Manchester, approximately one to two miles to the south of the site [5]. Due to the significant distance from the site to this municipal water source, and the lack of groundwater contamination detected during the October sampling event, there is likely little risk posed to area drinking water by the Abbott and Staples site.

The water supply well located on the Abbott & Staples property is used only to supply water to the car wash, and is not used for human consumption. The water sample collected from this well was non-detect for targeted VOCs.

Buildings in the Vicinity

The Abbott and Staples building is situated on a concrete slab foundation. Since this building does not contain a basement, there is likely minimal risk of petroleum vapor migration posed to the site building by the dispenser island source area. The majority of the Abbott & Staples site is paved, reducing the potential for exposure to the petroleum compounds through dermal contact with soils or inhalation of vapors.

Other buildings in the area are considered at minimal risk from the on-site petroleum contamination due to the lack of groundwater contamination detected during site monitoring, and given their separation distance from the source area.

Surface Water

The nearest surface water is a tributary to the Battenkill River, located approximately 1200 feet northeast of the dispenser island source area at the Abbott & Staples facility. This tributary is located in a hydraulically downgradient direction with respect to the dispenser sland. The tributary is considered at minimal risk of petroleum impact from Abbott & Staples given its distance from the subject site, and the lack of groundwater contamination detected during site monitoring.

Utility Corridors

The area surrounding Abbott & Staples is serviced by municipal water and sewer. The depth to groundwater in the vicinity of the site is 10 to 15 feet below ground level. This is well below the average utility depth (typically 4 to 5 feet below surface grade). Therefore the potential of contaminant migration via utility corridors is considered minimal.

IV. CONCLUSIONS

Based on this site investigation of petroleum contamination at the Abbott & Staples site, the following conclusions are offered:

1. VOC concentrations observed in site soils during a piping upgrade in October 1999 indicated the presence of adsorbed petroleum compounds in the vicinity of the former dispenser island. Measured VOC concentrations ranged from 0 to 300 ppm.

2. None of the compounds targeted by the EPA Method 8021B analysis were detected in excess of laboratory detection limits in samples collected from monitoring wells MW-1; and MW-3 through MW-6; in addition, TPHs were not detected in excess of laboratory detection limits in any of the five monitoring well sampled.

3. A water sample was collected from the onsite supply well servicing the car wash facility for submittal for laboratory analysis per EPA Method 524.2 for the presence of VOCs, and per EPA Method 8015 DRO for TPHs. The sample was non-detect for all targeted compounds.

4. As displayed in the groundwater contour map, groundwater flow as measured on October 2, 2000 is directed toward the northeast at an approximate hydraulic gradient of 0.8%.

5. No free product was present in the monitoring wells sampled on October 2, 2000.

6. No receptors are believed to be at risk from low levels of subsurface petroleum contamination, based on currently available data.

7. The area surrounding the USTs and the piping at Abbott & Staples site is paved, reducing the potential for exposure to petroleum contamination through dermal contact with soils or inhalation of vapors.

V. RECOMMENDATIONS

Based on the results of this site investigation, Griffin recommends that the Abbott & Staples facility in Manchester, Vermont be removed from the VTDEC Active Hazardous Waste Sites List. This recommendation is offered based upon achievement of the following closure criteria, as per the VTDEC Site Management Activity Completed (SMAC) Checklist (dated December 1, 1997):

1) The source(s), nature, and extent of the petroleum contamination at the site have been adequately defined.

   See Conclusions #1, #2, #3, and #5.

2) Source(s) has been removed, remediated, or adequately contained.

   See Conclusions #1.

3) Levels of contaminants in soil and groundwater shall be stable, falling, or non-detectable.

   See Conclusion #2, #3, and #5.

4) Groundwater enforcement standards are met at the following compliance points:

   Any point of present use of groundwater as a source of potable water: See conclusion #3.

   Any point at or within the boundary of any Class I groundwater area: The Abbott & Staples property is not within a Class I groundwater area.

   Any point at the boundary of the property on which the contaminant source is located: See conclusion #2 and #3.

5) Soil guideline levels are met. If not, engineering or institutional controls are in place.

   See Conclusion #6 and #7.

6) No unacceptable threat to human health or the environment exists on site.

   See Conclusions #2, #3, #5, #6, and #7.

7) Site meets RCRA requirements.

   Available records indicate that Abbott & Staples is not in violation of the Resource Conservation and Recovery Act (RCRA) as defined in 40 CFR 264. A RCRA compliance inspection was not conducted at this facility as part of this work scope.

8) Site meets CERCLA requirements.

   Available records indicate that Abbot & Staples is not in violation of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as defined in 40 CFR 300. A site inspection relative to CERCLA compliance was not conducted at this site as part of this work scope.

VI. REFERENCES

1. Griffin International, Inc., *Piping Replacement Inspection Report, Facility ID #397*, November 2, 1999.

2. Doll, Charles G., ed., 1970, *Surficial Geologic Map of Vermont*, State of Vermont.

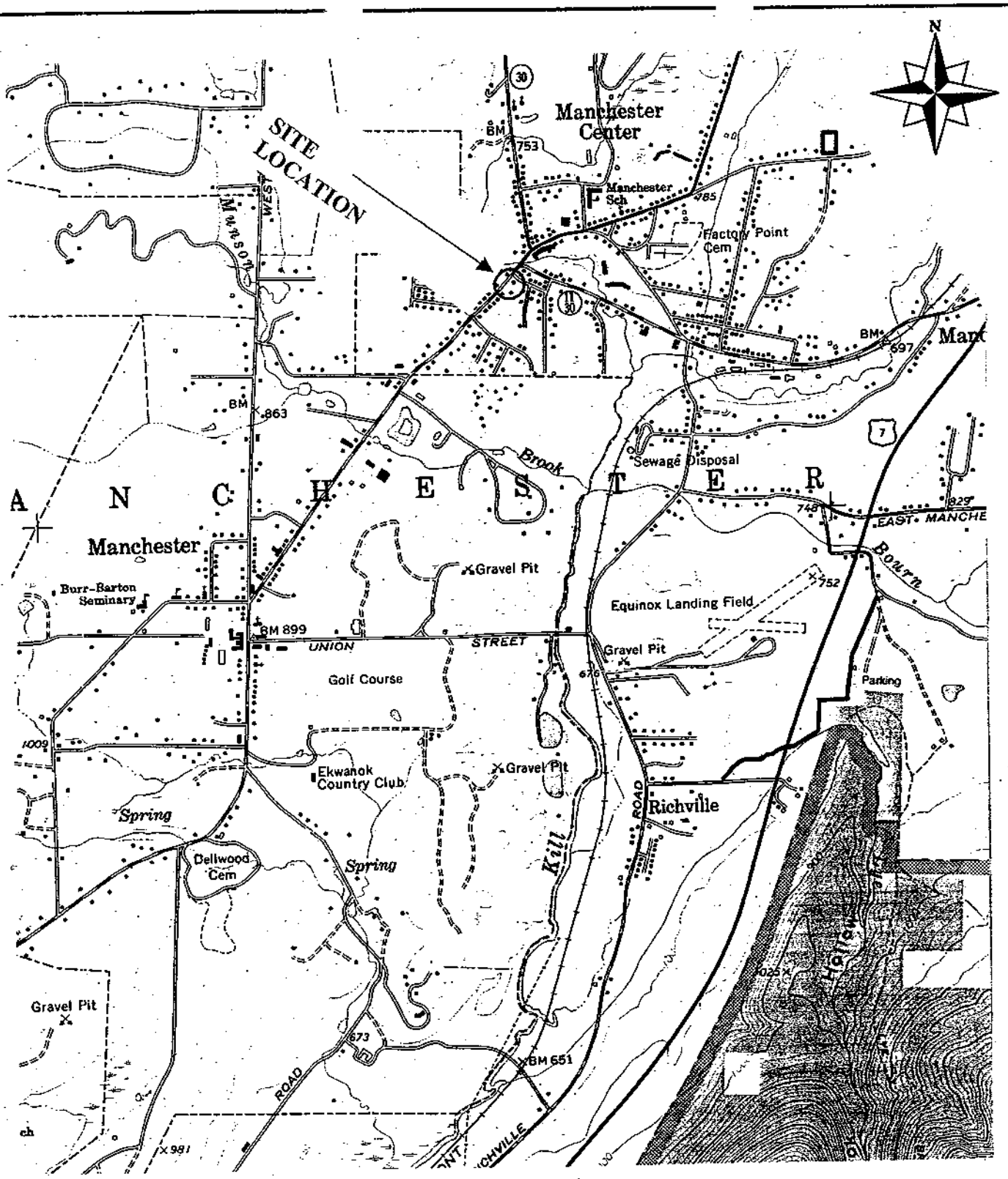
3. Doll, Charles G., ed., 1961, *Centennial Geologic Map of Vermont*, State of Vermont.

4. USGS 7.5 Minute Topographic Quadrangle Map. 1968, photo-revised 1983. Manchester, Vermont.

5. Mr. Alan Baccei, Manchester Water Department, telephone interview, December 22, 2000.

APPENDIX A

Maps



Job #: 109941621

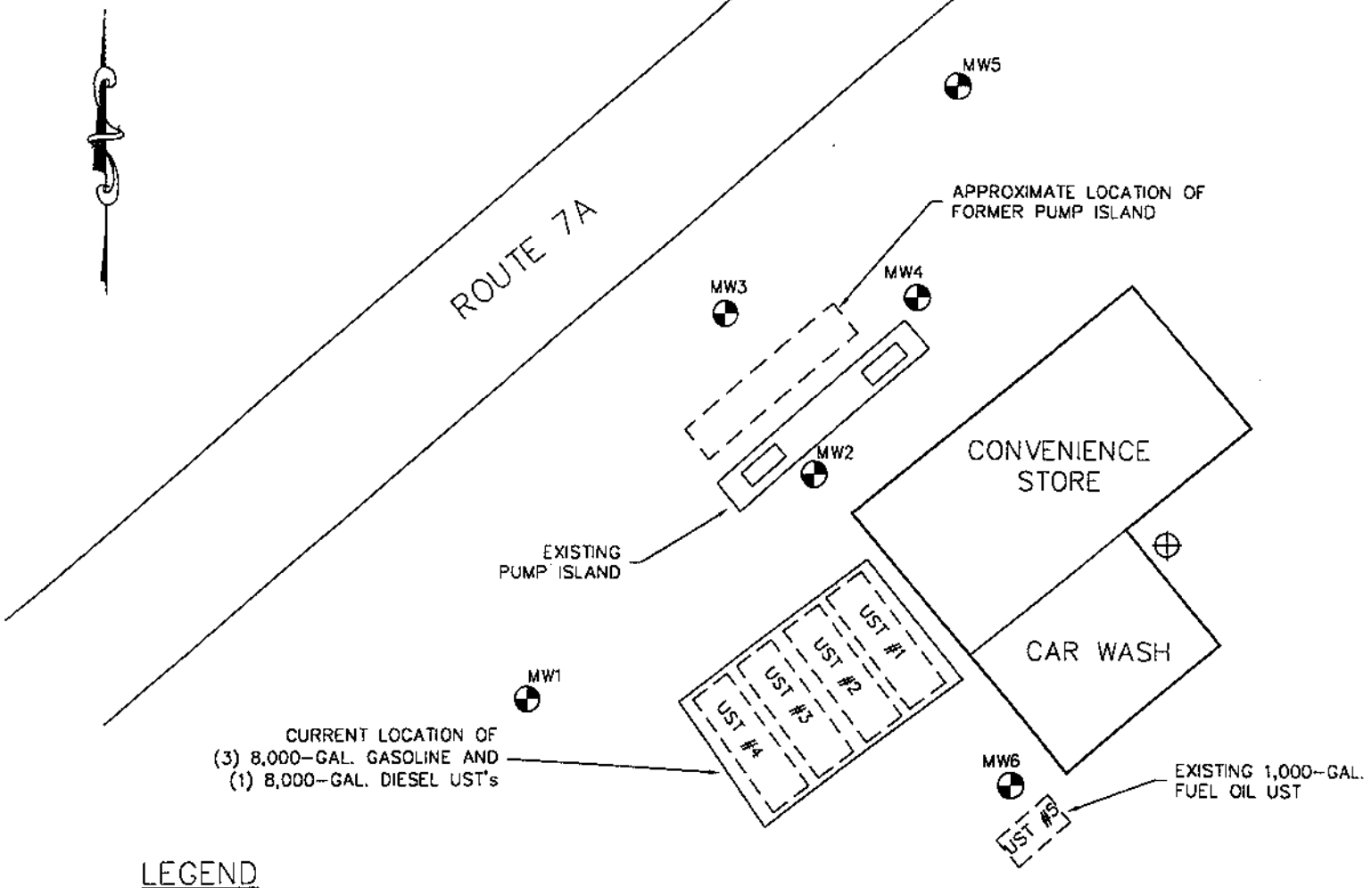
GRIFFIN INTERNATIONAL

Abbott & Staples

Route 7A, Manchester, VT

SITE LOCATION MAP

Date:	Source:	Scale:
10/28/99	USGS 7.5 Minute Topographic Quadrangle Map. Manchester , VT. 1968, modified 1983	1"=2000'



LEGEND

- MONITORING WELL
- SUPPLY WELL

VTDEC SITE #: 99-2712
JOB #: 109941631

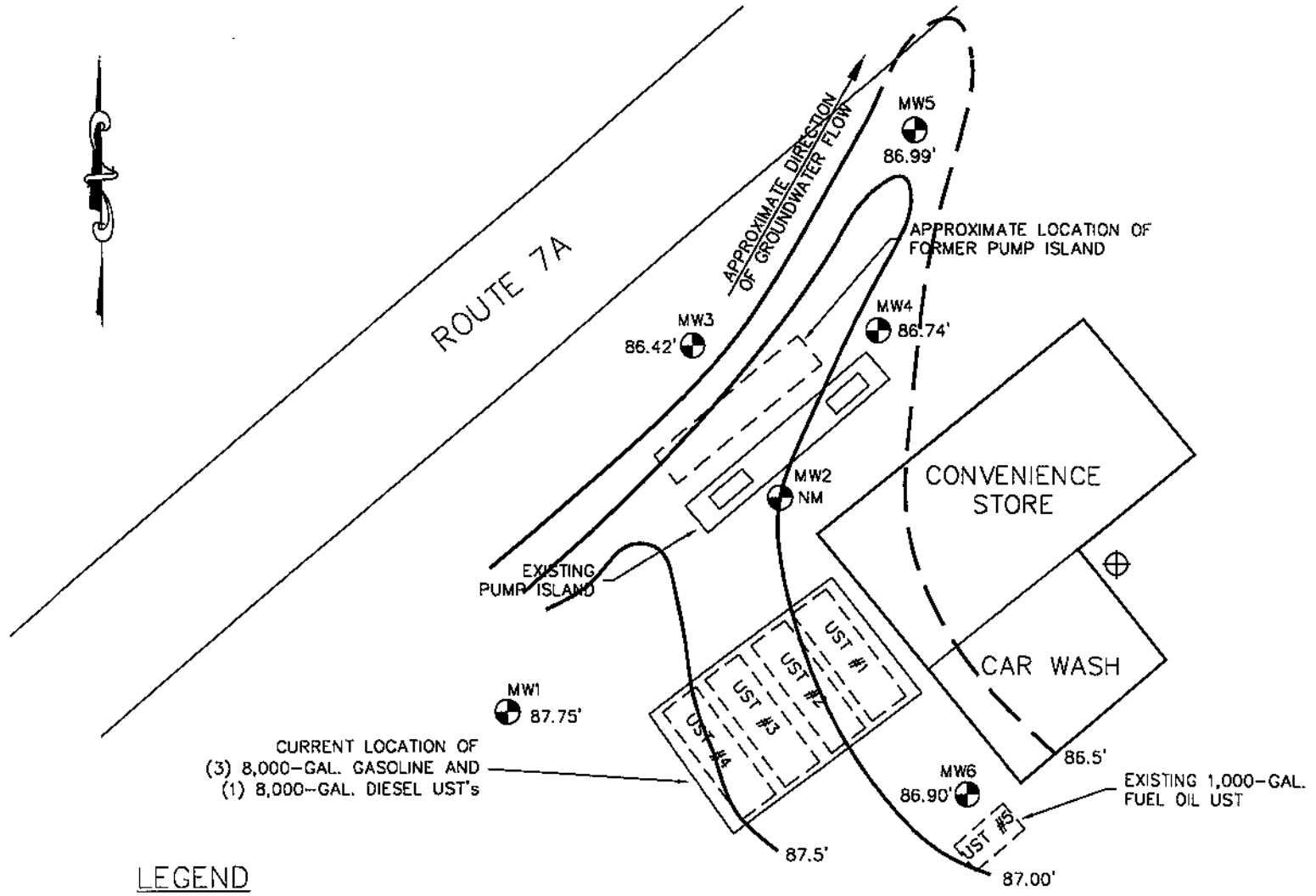
GRIFFIN INTERNATIONAL INC

ABBOTT & STAPLES

ROUTE 7A, MANCHESTER, VERMONT

SITE MAP

DATE: 12/22/00	DWG.#: 1	SCALE: 1"= 30'	DRN.: MP	APP.: BS



LEGEND

MW1 87.75'	MONITORING WELL WITH GROUNDWATER ELEVATION (ft)
87.5'	GROUNDWATER CONTOUR (FT) (DASHED WHERE INFERRED)
NM	NOT MEASURED
⊕	SUPPLY WELL

VTDEC SITE #: 99-2712
JOB #: 109941631

GRIFFIN INTERNATIONAL INC

ABBOTT & STAPLES

ROUTE 7A, MANCHESTER, VERMONT

GROUNDWATER CONTOUR MAP

MEASURED: 10/2/00

DATE: 12/22/00	DWG.#: 2	SCALE: 1"= 30'	DRN.: MP	APP.: BS

APPENDIX B

Liquid Level Monitoring Data

Summary of Liquid Level Data

Measurement Date: October 2, 2000

Well I.D.	Top of Casing Elevation	Depth To Product btoc	Depth To Water btoc	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW1	100.00	-	12.25	-	-	-	-	**87.75**
MW2	97.78	Concrete lodged in monitoring well cover, could not be gauged.						
MW3	96.33	-	9.91	-	-	-	-	**86.42**
MW4	96.90	-	10.16	-	-	-	-	**86.74**
MW5	95.82		8.83	-	-	-	-	**86.99**
MW6	98.38	-	11.48	-	-	-	-	**86.90**

All Values Reported in Feet

btoc - Below Top of Casing

Monitoring wells surveyed by Griffin International October 11, 2000

Elevations determined relative to top of casing of MW1, which was arbitrarily set at 100'

APPENDIX C

Groundwater Quality Summary Data

Groundwater Quality Summary Data

Sample Date: October 2, 2000

PARAMETER	MW1	MW2	MW3	MW4	MW5	MW6	VGES
Benzene	ND(1)	Well	ND(1)	ND(1)	ND(1)	ND(1)	5
Toluene	ND(1)	Not	ND(1)	ND(1)	ND(1)	ND(1)	1,000
Ethylbenzene	ND(1)	Sampled	ND(1)	ND(1)	ND(1)	ND(1)	700
Xylenes	ND(1)		ND(1)	ND(1)	ND(1)	ND(1)	10,000
Total BTEX	ND		ND	ND	ND	ND	-
1,3,5 Trimethyl Benzene	ND(1)	Concrete	ND(1)	ND(1)	ND(1)	ND(1)	4
1,2,4 Trimethyl Benzene	ND(1)	lodged	ND(1)	ND(1)	ND(1)	ND(1)	5
Napthalene	ND(1)	in monitoring	ND(1)	ND(1)	ND(1)	ND(1)	20
MTBE	ND(10)	well cover	ND(10)	ND(10)	ND(10)	ND(10)	40
Total Targeted VOCs	ND		ND	ND	ND	ND	-
TPH (mg/L)	ND(0.40)		ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	-

TBQ( ): Trace below quantitation limit (quantitation limit)

ND( ): Not detected (detection limit)

NT: Not tested

All values in ug/L (ppb) unless noted

Analysis by EPA Method 8021B, except for TPH by EPA Method 8015 DRO

VGES = Vermont Groundwater Enforcement Standards (Vermont Groundwater Protection Rule and Strategy, 1/20/2000)

APPENDIX D

Laboratory Analysis Reports

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

Griffin International
PO Box 943
Williston, VT 05495
Attn:

PROJECT: Abbot & Staples
ORDER ID: 9607
RECEIVE DATE: October 3, 2000
REPORT DATE: October 13, 2000

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which include matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits, unless otherwise noted.

Sample 163203 was observed to have a pH of 4. Samples 163202, 163204-163206 were observed to have a pH of 7.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

Enclosures

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Abbot & Staples
REPORT DATE: October 13, 2000

ORDER ID: 9607
DATE RECEIVED: October 3, 2000
SAMPLER: RD

Site: MW-1
Ref. Number: 163202
Anal. Method: SW 8021B
Date Sampled: 10/2/00
Time Sampled: 12:45 PM
Analysis Date: 10/10/00
Analyst: 555

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	84.%

Site: MW-3
Ref. Number: 163204
Anal. Method: SW 8021B
Date Sampled: 10/2/00
Time Sampled: 1:57 PM
Analysis Date: 10/10/00
Analyst: 555

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	85.%

Site: MW-5
Ref. Number: 163206
Anal. Method: SW 8021B
Date Sampled: 10/2/00
Time Sampled: 2:22 PM
Analysis Date: 10/10/00
Analyst: 555

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	84.%

Site: MW-4
Ref. Number: 163203
Anal. Method: SW 8021B
Date Sampled: 10/2/00
Time Sampled: 1:34 PM
Analysis Date: 10/11/00
Analyst: 555

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	82.%

Site: MW-6
Ref. Number: 163205
Anal. Method: SW 8021B
Date Sampled: 10/2/00
Time Sampled: 1:20 PM
Analysis Date: 10/10/00
Analyst: 555

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	84.%

Site: Trip Blank
Ref. Number: 163207
Anal. Method: SW 8021B
Date Sampled: 10/2/00
Time Sampled: 8:05 AM
Analysis Date: 10/10/00
Analyst: 555

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	88.%

39425

ENDYNE, INC.

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

CHAIN-OF-CUSTODY-RECORD

Project Name:	Reporting Address:	Billing Address:
RBOT & STAPLES	GRIFFIN	GRIFFIN
Endyne Order ID: (Lab Use Only) 9607 (S -O, -I, -S)	Company: GRIFFIN Contact Name/Phone #:	Sampler Name: ROB DANCKERT Phone #:

Ref # (Lab Use Only)	Sample Identification	Matrix	GRAB	COMP	Date/Time 10/2/00	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
163202	MW-1	WATER	X		1245	3	40 ml		8021B	HCl	
163203	MW-4				1334				8015DRO		
163204	MW-3				1357						
205	MW-6				1320						
206	MW-5				1422						
207	TRIP BLANK				0505	2			8021B		
	~~[illegible]~~								~~[illegible]~~		
208	SUPPLY WELL (DUPLICATE)				1452	2			8015DRO		
163209	SUPPLY WELL				1452	3		(524.2, 8015 DRO)			

Relinquished by:	Date/Time	Received by:	Date/Time	Received by:	Date/Time
[signature]	10/3/00	Melissa Salmon	10/3/00 10:05AM	John Swab	10/3/00 10:30

New York State Project: Yes ____ No X

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Sulfate	21	1664 TPH/FOG	26	8270 PAH
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	8015 GRO	27	PP13 Metals
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	8015 DRO	28	RCRA8 Metals
4	Nitrite N	9	BOD	14	Turbidity	19	8021B	24	8260/8260B	29	
5	Nitrate N	10	Alkalinity	15	Conductivity	20	8010/8020	25	8270 B/N or Acid	30	
31	Metals (As Is, Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sr, Ti, Tl, V, Zn										
32	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)					33					
34	Other										

(White, Yellow, Pink Copy - Laboratory / Goldenrod Copy - Client)

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

Griffin International
PO Box 943
Williston, VT 05495
Attn:

PROJECT: Abbot & Staples
ORDER ID: 9607
RECEIVE DATE: October 3, 2000
REPORT DATE: October 19, 2000

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Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which include matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits, unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Abbot & Staples
REPORT DATE: October 19, 2000

ORDER ID: 9607
DATE RECEIVED: October 3, 2000
SAMPLER: RD
ANALYST: 128

Ref. Number: 163202 | Site: MW-1 | Date Sampled: October 2, 2000 | Time: 12:45 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	10/16/00

Ref. Number: 163203 | Site: MW-4 | Date Sampled: October 2, 2000 | Time: 1:34 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	10/16/00

Ref. Number: 163204 | Site: MW-3 | Date Sampled: October 2, 2000 | Time: 1:57 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	10/16/00

Ref. Number: 163205 | Site: MW-6 | Date Sampled: October 2, 2000 | Time: 1:20 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	10/16/00

Ref. Number: 163206 | Site: MW-5 | Date Sampled: October 2, 2000 | Time: 2:22 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	10/16/00

Ref. Number: 163208 | Site: Duplicate | Date Sampled: October 2, 2000 | Time: 2:52 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	10/16/00

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Abbot & Staples
REPORT DATE: October 19, 2000

ORDER ID: 9607
DATE RECEIVED: October 3, 2000
SAMPLER: RD
ANALYST: 128

Ref. Number: 163209 | Site: Supply Well | Date Sampled: October 2, 2000 | Time: 2:52 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	10/16/00

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(802) 879-4333

CHAIN-OF-CUSTODY-RECORD

3/4/25

Project Name:	Reporting Address:	Billing Address:
KEBOT & STAPLES	GRIFFIN	GRIFFIN
Endyne Order ID: (Lab Use Only) 9607	Company: GRIFFIN	Sampler Name: ROB DANCKERT
3 -O / -I / -S	Contact Name/Phone #:	Phone #:

Ref # (Lab Use Only)	Sample Identification	Matrix	GRAB	COMP	Date/Time 10/2/00	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
163202	MW-1	WATER	X		1245	3	40 ml		8021B	HCl	
163203	MW-4				1334				8015DRO		
163204	MW-3				1357						
205	MW-6				1320						
206	MW-5				1422						
207	TRIP BLANK				0505	2			8021B		
	~~[illegible]~~								~~[illegible]~~		
208	SUPPLY WELL (DUPLICATE)				1452	2			8015DRO		
163209	SUPPLY WELL				1450	3		(524.2, 8015 DRO)			

Relinquished by:	Date/Time	Received by:	Date/Time	Received by:	Date/Time
[signature]	10/3/00	Melissa Salmon	10/3/00 10:05 AM	John Sulli	10/3/00 10:30

New York State Project: Yes ____ No X

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Sulfate	21	1664 TPH/FOG	26	8270 PAH
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	8015 GRO	27	PP13 Metals
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	8015 DRO	28	RCRA8 Metals
4	Nitrite N	9	BOD	14	Turbidity	19	8021B	24	8260/8260B	29	
5	Nitrate N	10	Alkalinity	15	Conductivity	20	8010/8020	25	8270 B/N or Acid	30	
31	Metals (As Is, Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sr, Ti, Tl, V, Zn										
32	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)					33					
34	Other										

(White, Yellow, Pink Copy - Laboratory / Goldenrod Copy - Client)

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

Griffin International
PO Box 943
Williston, VT 05495
Attn:

PROJECT: Abbot & Staples
ORDER ID: 9607
RECEIVE DATE: October 3, 2000
REPORT DATE: October 11, 2000

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which include matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits, unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA 524.2

CLIENT: Griffin International
PROJECT: Abbot & Staples
SITE: Supply Well
DATE RECEIVED: October 3, 2000
REPORT DATE: October 11, 2000
ANALYSIS DATE: October 5, 2000

ORDER ID: 9607
REFERENCE NUMBER: 163209
DATE SAMPLED: October 2, 2000
TIME SAMPLED: 2:52 PM
SAMPLER: RD
ANALYST: 725

Parameter	Result ug/L
Benzene	< 0.5
Bromobenzene	< 0.5
Bromochloromethane	< 0.5
Bromomethane	< 0.5
n-Butylbenzene	< 0.5
sec-Butylbenzene	< 0.5
tert-Butylbenzene	< 0.5
Carbon tetrachloride	< 0.5
Chlorobenzene	< 0.5
Chloroethane	< 0.5
Chloromethane	< 0.5
4-Chlorotoluene	< 1.0
2-Chlorotoluene	< 1.0
Dibromomethane	< 1.0
1,2-Dichlorobenzene	< 0.5
1,3-Dichlorobenzene	< 0.5
1,4-Dichlorobenzene	< 0.5
Dichlorodifluoromethane	< 0.5
1,1-Dichloroethane	< 0.5
1,2-Dichloroethane	< 0.5
1,1-Dichloroethene	< 0.5
cis-1,2-Dichloroethene	< 0.5
trans-1,2-Dichloroethene	< 0.5
Dichloromethane	< 1.0
1,2-Dichloropropane	< 0.5
1,3-Dichloropropane	< 0.5
2,2-Dichloropropane	< 0.5
1,1-Dichloropropene	< 0.5
cis-1,3-Dichloropropene	< 0.5
trans-1,3-Dichloropropene	< 0.5
Ethylbenzene	< 0.5

Parameter	Result ug/L
Hexachlorobutadiene	< 0.5
Isopropylbenzene	< 0.5
4-Isopropyltoluene	< 0.5
MTBE	< 1.0
Naphthalene	< 1.0
n-Propylbenzene	< 0.5
Styrene	< 0.5
1,1,1,2-Tetrachloroethane	< 0.5
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.5
Toluene	< 0.5
1,2,3-Trichlorobenzene	< 0.5
1,2,4-Trichlorobenzene	< 0.5
1,1,1-Trichloroethane	< 0.5
1,1,2-Trichloroethane	< 0.5
Trichloroethene	< 0.5
Trichlorofluoromethane	< 1.0
1,2,3-Trichloropropane	< 0.5
1,2,4-Trimethylbenzene	< 0.5
1,3,5-Trimethylbenzene	< 0.5
Vinyl Chloride	< 0.5
Xylenes, Total	< 1.0
Bromodichloromethane	< 0.5
Bromoform	< 0.5
Chloroform	< 0.5
Dibromochloromethane	< 0.5
Total Trihalomethanes	< 0.5
Surrogate 1	92.%
Surrogate 2	101.%
UIP's	0.

39425

ENDYNE, INC.

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

CHAIN-OF-CUSTODY-RECORD

Project Name:	Reporting Address:	Billing Address:
RIBOT & STAPLES	GRIFFIN	GRIFFIN
Endyne Order ID: (Lab Use Only) 9607 -O -I -S	Company: GRIFFIN Contact Name/Phone #:	Sampler Name: ROB DANCKERT Phone #:

Ref # (Lab Use Only)	Sample Identification	Matrix	GRAB	COMP	Date/Time 10/2/00	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
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206	MW-5				1422						
207	TRIP BLANK				0505	2			8021B		
	~~TRIP BLANK~~								~~8015DRO~~		
208	SUPPLY WELL (DUPLICATE)				1452	2			8015DRO		
163209	SUPPLY WELL				1452	3		(524.2, 8015 DRO)			

Relinquished by:	Date/Time	Received by:	Date/Time	Received by:	Date/Time
	10/3/00	Melissa Salmon	10/3/00 10:05 AM	John Swift	10/3/00 10:30

New York State Project: Yes ____ No ____

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Sulfate	21	1664 TPH/FOG	26	8270 PAH
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	8015 GRO	27	PP13 Metals
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32	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)					33					
34	Other										